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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Eighty-second Meeting  
Montreal, 3-7 December 2018

**PROJECT PROPOSAL: URUGUAY**

This document consists of the comments and recommendation of the Secretariat on the following project proposal:

Phase-out

- HCFC phase-out management plan (stage II, second tranche) UNDP

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

### Uruguay

(I) PROJECT TITLE	AGENCY	MEETING APPROVED	CONTROL MEASURE
HCFC Phase Out Plan (Stage II)	UNDP (lead)	77 <sup>th</sup>	35 % by 2020

(II) LATEST ARTICLE 7 DATA (Annex C Group I)	Year: 2017	16.69 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)								Year: 2017	
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-123			0.03						0.03
HCFC-124					0.12				0.12
HCFC-141b					1.47	0.01			1.48
HCFC-141b in Imported Pre-blended Polyol		5.47							5.47
HCFC-142b	0.01				0.04				0.05
HCFC-22				1.13	13.88				15.02

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	23.33	Starting point for sustained aggregate reductions:	28.66
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	15.23	Remaining:	13.43

(V) BUSINESS PLAN		2018	2019	2020	Total
UNDP	ODS phase-out (ODP tonnes)	6.8	0.0	1.1	7.9
	Funding (US \$)	727,481	0	119,057	846,538

(VI) PROJECT DATA			2016	2017	2018	2019	2020	Total
Montreal Protocol consumption limits			21.00	21.00	21.00	21.00	15.16	n/a
Maximum allowable consumption (ODP tonnes)			21.00	21.00	21.00	21.00	15.16	n/a
Agreed funding (US\$)	UNDP	Project costs	314,000	0	679,889	0	111,268	1,105,157
		Support costs	21,980	0	47,592	0	7,789	77,361
Funds approved by ExCom (US\$)	UNDP	Project costs	314,000	0	0	0	0	314,000
		Support costs	21,980	0	0	0	0	21,980
Total funds requested for approval at this meeting (US\$)	UNDP	Project costs	0	0	679,889	0	0	679,889
		Support costs	0	0	47,592	0	0	47,592

<b>Secretariat's recommendation:</b>	Blanket approval
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## PROJECT DESCRIPTION

1. On behalf of the Government of Uruguay, UNDP as the designated implementing agency, has submitted a request for funding for the second tranche of stage II of the HCFC phase-out management plan (HPMP), at the amount of US \$679,889, plus agency support costs of US \$47,592.<sup>1</sup> The submission includes a progress report on the implementation of the first tranche of stage II, the verification report on HCFC consumption for 2016 and 2017, and the tranche implementation plan for 2018 to 2019.

### Status of stage I

2. In line with decision 81/29, UNDP submitted the project completion report of stage I of the HPMP, which confirms finalization of the stage. The balances from stage I will be returned to the 83<sup>rd</sup> meeting.

### Report on HCFC consumption

3. The Government of Uruguay reported a consumption of 16.69 ODP tonnes for 2017, which is 28 per cent below the HCFC baseline for compliance. The 2013-2017 HCFC consumption is shown in Table 1.

**Table 1. HCFC consumption in Uruguay (2013-2017 Article 7 data)**

HCFC	2013	2014	2015	2016	2017	Baseline
<b>Metric tonnes</b>						
HCFC-22	261.89	298.26	254.23	295.35	273.04	383.36
HCFC-123	0.74	1.54	1.60	2.02	1.30	1.86
HCFC-124	7.14	6.22	3.36	2.42	5.45	4.14
HCFC-141b	6.38	9.64	14.81	0.00	13.42	13.58
HCFC-142b	3.08	2.65	0.98	1.35	0.84	9.68
<b>Total (mt)</b>	<b>279.17</b>	<b>318.31</b>	<b>274.98</b>	<b>301.14</b>	<b>294.05</b>	<b>412.61</b>
HCFC-141b in imported pre-blended polyols*	60.88	51.62	35.69	42.85	49.75	48.40**
<b>ODP tonnes</b>						
HCFC-22	14.40	16.40	13.98	16.24	15.02	21.08
HCFC-123	0.01	0.03	0.03	0.04	0.03	0.04
HCFC-124	0.16	0.14	0.07	0.05	0.12	0.09
HCFC-141b	0.70	1.06	1.63	0.00	1.48	1.49
HCFC-142b	0.20	0.17	0.06	0.09	0.05	0.63
<b>Total (ODP tonnes)</b>	<b>15.47</b>	<b>17.80</b>	<b>15.78</b>	<b>16.43</b>	<b>16.69</b>	<b>23.33</b>
HCFC-141b in imported pre-blended polyols*	6.70	5.68	3.93	4.71	5.47	5.33**

\*Country programme data.

\*\*Average consumption between 2007 and 2009.

4. The sustained reduction in HCFC consumption is due to control measures imposed on ODS imports including the quota system, and the activities conducted under the HPMP, including the ban on imports of HCFC-22-based split-system air-conditioning equipment starting 2017, and reduction of HCFC-22 consumption for the maintenance of refrigeration and air-conditioning (RAC) equipment.

5. The import of HCFC-22 in 2014 was higher than in 2015 as a result of the upcoming control measures (i.e., 10 per cent reduction in 2015 and stage II of the HPMP). The increase in HCFC-22 consumption in 2016 and 2017 compared to 2015 was due to increasing demands for the refrigerant. In 2016, imports returned to average levels, with a decreasing trend in 2017.

<sup>1</sup> As per the letter of 24 September 2018 from the Ministry of Housing, Land Planning and Environment of Uruguay to UNDP.

6. The increase in imports of HCFC-141b in pre-blended polyols in 2017 was attributed to economic growth during this period where the manufacturing and construction sectors grew significantly thereby increasing the demand for spray foam.

7. In 2016, local distributors and end-users had available stocks of pure HCFC-141b therefore, there was zero import of this substance. The increase in imports of pure HCFC-141b in 2017 is attributed to the replenishment of stocks by importers and local suppliers; importers tend to do bigger importations due to freight costs to Uruguay. Importers and local distributors also reacted to discussions with the National Ozone Unit (NOU) on future ban on using HCFC-141b in flushing applications. Uruguay does not expect that the consumption of HCFC-141b will have an impact on meeting its reduction targets in 2020. The increase in HCFC-124<sup>2</sup> consumption in 2017 was due to replenishment of stocks

#### *Country programme (CP) implementation report*

8. The Government of Uruguay reported HCFC sector consumption data under the 2017 CP implementation report which is consistent with the data reported under Article 7 of the Montreal Protocol.

#### *Verification report*

9. The verification report confirmed that the Government is implementing a licensing and quota system for HCFC imports and exports and that the total consumption of HCFCs for 2016 to 2017 were 16.43 and 16.69 ODP tonnes, respectively. The verification concluded that Uruguay has complied with the targets for 2016 and 2017, and that its licensing and quota system for HCFC imports and exports is capable of ensuring the country's compliance with its Montreal Protocol obligations.

#### Progress report on the implementation of the first tranche of the HPMP

##### *Legal framework*

10. The Government of Uruguay has implemented a ban on the import of split-system air-conditioning equipment that use HCFC-22 since 2017, and has formally ratified the Kigali Amendment in September 2018.

11. The NOU and the National Customs Directorate (DNA) reviewed the operation of the electronic platform for the licensing system (Ventanilla Única de Comercio Exterior, VUCE) to further strengthen the systems to control the import, export and transit of ODS. Uruguay is reportedly the only country in the region that controls the transits of ODS, alerting the destination countries in order to prevent illegal entry of controlled substances.

12. A review of the legal framework for ODS management was conducted to ensure that it is up to date; 18 (out of a target of 50) Customs officers were trained in the control of illegal ODS trade, and remaining officers will be trained during the implementation of the second tranche; and updated information materials were provided at the workshop. The NOU is also working with the Customs Brokers Association and other stakeholders to develop a virtual training module on the topic.

##### *Polyurethane (PU) foam manufacturing sector*

13. Stage II of the HPMP includes the complete phase-out of HCFC-141b in bulk and contained in imported pre-blended polyols (5.53 ODP tonnes) in the PU foam sector. An international foam expert was identified and together with the NOU, has held several meetings with enterprises and other stakeholders

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<sup>2</sup> HCFC-124 is a component of R-401A and R-401B used for the maintenance of refrigeration systems of medium and low temperature; the consumption of these refrigerants is a small fraction of the refrigerant market in Uruguay.

about the conversion of the foam sector to zero ODP and low-GWP technology. One enterprise that manufactures water heaters has started conducting initial tests for the use of cyclopentane and HFO to phase out HCFC-141b. NOU personnel attended the workshop on the demonstration project on foam formulations using HFOs developed by the systems house Espumlatex in Colombia, and subsequently met with beneficiaries of the PU foam sector plan to discuss availability of the alternative.

*Refrigeration servicing sector*

14. The following activities were implemented:

- (a) Updated the good refrigeration practices training manual and workshop contents; conducted five train-the-trainers workshops for 10 trainers and three training workshops for 200 technicians; continued coordination with refrigeration association for technicians certification requirements and distributed updated training materials;
- (b) Hired an international expert who conducted workshops to promote the use and energy efficiency benefits of low-GWP alternatives to HCFC, such as CO<sub>2</sub> and ammonia, for supermarkets and the food industry for 32 participants, and six virtual conferences for the same topic; visited several enterprises interested in the use of CO<sub>2</sub> technology; three senior engineers participated at the Febrava and Conbrava 2017, the biggest RAC sector fair in Latin America to learn more about low-GWP and other alternatives;
- (c) Developed the terms of reference for the pilot projects to demonstrate the use of one CO<sub>2</sub>-based system, and another low-GWP technology for supermarkets and the food industry including criteria for selection of beneficiaries; this will be fully implemented as part of the second tranche;
- (d) Meetings were held between the NOU and the Energy National Directorate to review the sustainable procurement process, which is linked to a UNEP project on public procurement, and criteria was being developed for non-ODS, low-GWP, and high energy efficiency technologies procurement; and
- (e) Awareness raising materials were prepared (e.g., brochures with HCFC reduction targets, technical information of refrigerants) to promote the phase-out of HCFCs and good refrigeration practices in the RAC servicing sector; NOU webpage was updated and social media presence initiated.

*Project implementation and monitoring unit (PMU)*

15. The NOU is responsible for the implementation of Montreal Protocol-related activities in the country, and for the identification, implementation, monitoring and evaluation of HPMP activities.

Level of fund disbursement

16. As of September 2018, of the US \$314,000 approved so far, US \$161,746 (51.5 per cent) had been disbursed. The balance of US \$152,254 will be disbursed in 2018 and 2019.

Implementation plan for the second tranche of the HPMP

17. The following activities will be implemented between January 2019 to December 2020:

- (a) Continue to strengthen the legal framework to control HCFC consumption and compliance with the new regulations and procedures through biannual stakeholder meetings; train

60 Customs officers through four workshops on controlling illegal ODS trade; NOU to conduct two inspection visits to Customs offices in the country (US \$31,900);

- (b) Finalize the implementation plan for the phase-out of HCFC-141b and implement the project in foam manufacturing sector to convert 21 small and medium-sized enterprises (SMEs) to HFO technology (US \$422,889);
- (c) Train 300 service technicians through three two-week long workshops on good refrigeration practices and one national workshop; procure and distribute low-GWP alternative-based RAC units and tools for training of service technicians; and produce new multimedia material for good refrigeration practices (US \$111,100);
- (d) Promote low-GWP, high energy efficiency refrigerants in the RAC sector through two workshops and two field visits; select beneficiaries for and implement the pilot projects to demonstrate low-GWP alternatives in supermarkets and the cold food industry (US \$55,000);
- (e) Finalise the development of criteria for the planned sustainable procurement programme specifying technical requirements of low-GWP RAC equipment, as well as the procurement process (funds from previous tranche);
- (f) Continue awareness raising activities on HCFC phase-out for RAC sector and other stakeholders through the design of new campaigns for social media and the internet (US \$8,000); and
- (g) Project coordination and monitoring (PMU) (US \$50,200).

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

#### Progress report on the implementation of the first tranche of the HPMP

##### *Legal framework*

18. The Government of Uruguay has already issued HCFC import quotas for 2018 at 19.6 ODP tonnes, which is lower than the Montreal Protocol control targets.

##### *PU foam manufacturing sector*

19. The Secretariat noted that the conversion of the foam enterprises will be implemented in 2019 as part of the second tranche. Responding to the Secretariat's query, UNDP explained that the supply of HFO-based PU systems is a challenge, not only in Uruguay but in the Latin American region. UNDP has continued discussions with HFO suppliers and systems houses in the region to ensure the availability of HFO-based PU systems, and expects that the foam market in Uruguay will have sufficient supply of these once this conversion project commences in 2019, and demand for these systems increase. HFO suppliers and systems houses in the region, such as Synthesia in Panama and Espumlatex in Colombia, have indicated the availability of HFO and HFO-based PU systems and their associated components albeit in limited quantities.

20. In explaining the work being done independently by one water heater manufacturer, UNDP clarified that this enterprise is analyzing different blowing agent alternative technologies (e.g., cyclopentane

and HFO) and reviewing the supply chain and technical requirements for such. UNDP further explained that the experience of this enterprise will benefit other SMEs in this sector as the company could identify the supply barriers and requirements for the adoption of an alternative blowing agent, which may assist in faster uptake of alternatives for the SMEs.

#### *Refrigeration servicing sector*

21. UNDP explained that the objectives and activities included in the pilot projects are to promote opportunities to demonstrate low-GWP alternatives for HCFC particularly in supermarkets and the food industry. CO<sub>2</sub> and ammonia are the main alternatives encouraged so far. Meetings and workshops with stakeholders and potential beneficiaries were conducted to promote and increase the technical knowledge of the end users and local RAC systems designers and installers. During those workshops some companies considered participation in the pilot projects, but their decision still depends on the technical viability of the selected alternative, and the financial investment required as counterpart funding. One key criteria for the selection of the beneficiary will be the replicability of the selected technology in the country and contribution to the phase-out of HCFC.

#### Conclusion

22. Uruguay continues to be in compliance with the Montreal Protocol and the HCFC consumption targets defined in its Agreement with the Executive Committee. The Government has continued to implement its licensing and quota system and other ODS-related regulations, has banned the import of split-system air-conditioning equipment using HCFCs since 2017, and has trained 200 technicians in the servicing sector. Although there was an increase in consumption of HCFC-141b in bulk and in imported pre-blended polyols which was attributed to an increased demand in the construction sector and a possible future ban on using HCFC-141b in flushing applications, the Government does not expect that this will have an impact on meeting its reduction targets in 2020. The level of disbursement is 51.5 per cent of the funds approved so far. The planned activities under the second tranche, including the implementation of the foam conversion project (when local supply of HFO-based systems become available), and the pilot projects to demonstrate low-GWP alternatives will ensure long-term sustainability of stage II of the HPMP.

#### **RECOMMENDATION**

23. The Fund Secretariat recommends that the Executive Committee takes note of the progress report on the implementation of the first tranche of stage II of the HCFC phase-out management plan of (HPMP) for Uruguay, and further recommends blanket approval of the second tranche of stage II of the HPMP for Uruguay, and the corresponding 2018-2020 tranche implementation plan, at the funding level shown in the table below, on the understanding that:

- (a) End-users participating in the pilot projects to demonstrate low-GWP alternatives in supermarkets and the food industry would provide co-financing; and
- (b) UNDP would report on the progress in implementation of the conversion of the foam enterprises and the availability of HFO/HFO-based polyurethane systems and their associated components to the 84<sup>th</sup> meeting.

	<b>Project title</b>	<b>Project funding (US \$)</b>	<b>Support cost (US \$)</b>	<b>Implementing agency</b>
(a)	HCFC phase-out management plan (stage II, second tranche)	679,889	47,592	UNDP